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## CLAIMS

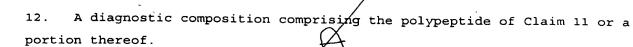
- 1. A purified polynucleotide comprising a nucleic acid sequence encoding the polypeptide of SEQ ID NO:2, or the complement of said polynucleotide.
- 2. The polynucleotide of Claim 1 comprising the nucleic acid sequence for a novel human Jak2 kinase (hjak2) of SEQ ID NO:1.
- 3. An antisense molecule comprising the complement of the polynucleotide of Claim 2 or a portion thereof.
- 4. A pharmaceutical composition comprising the antisense molecule of Claim 3 and a pharmaceutically acceptable excipient.
- 5. A method of treating a subject with a condition associated with altered hjak2 expression comprising administering an effective amount of the pharmaceutical composition of Claim 4 to the subject.
- 6. A diagnostic composition comprising an oligomer of the polynucleotide of Claim 2.
- 7. A diagnostic test for a condition associated with altered hjak2 expression comprising the steps of:
  - a) providing a biological sample;
- b) combining the biological sample and the diagnostic composition of Claim 6;
- c) allowing hypridization to occur between the biological sample and the diagnostic composition under suitable conditions;
- d) measuring the amount of hybridization to obtain a sample value; and
- e) comparing the sample value with standard values to determine whether hjak2 expression is altered.
- 8. An expression vector comprising the polynucleotide of Claim 1.
- 9. A host cell transformed with the expression vector of Claim 8.
- 10. A method for producing a polypeptide, said method comprising the steps of:
- a) culturing the host cell of Claim 9 under conditions suitable for the expression of

the polypeptide; and

- b) recovering the polypeptide from the host cell culture.
- 11. A purified polypeptide (HJAK2) comprising the amino acid sequence of SEQ ID NO:2.

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- 13. A pharmaceutical composition comprising the polypeptide of Claim 11 and a pharmaceutically acceptable excipient.
- 14. A method of treating a subject with a condition associated with altered HJAK2 expression comprising administering an effective amount of the pharmaceutical composition of Claim 13 to the subject.
- 15. An antibody specific for the purified polypeptide of Claim 11, or portion thereof.
- 16. A diagnostic composition comprising the antibody of Claim 15.
- 17. A diagnostic test for a condition associated with altered HJAK2 expression comprising the steps of:
  - a) providing a biological sample;
- b) combining the biological sample and the antibody of Claim 15 under conditions suitable for complex formation;
- c) measuring the amount of complex formation between HJAK2 and the antibody to obtain a sample amount; and
- d) comparing the amount of complex formation in the sample with standard amounts of complex formation, wherein a variation between the sample amount and standard amounts of complex formation establishes the presence of the condition.
- 18. A method of screening a plurality of compounds for specific binding affinity with the polypeptide of Claim 11 or any portion thereof comprising the steps of:
  - a) providing a plurality of compounds;
- b) combining HJAK2 with each of a plurality of compounds for a time sufficient to allow binding under suitable conditions; and
- c) detecting binding of HJAK2 to each of the plurality of compounds, thereby identifying the compounds which specifically bind HJAK2.

Badd

 $add c^3$ 

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